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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,767	07/16/2003	Spyros Kavadias	2573P	1703

7590 08/26/2004

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EXAMINER

NGUYEN, VINCENT Q

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No. 10/621,767	Applicant(s) KAVADIAS, SPYROS	
Office Action Summary	Examiner Vincent Q Nguyen	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Drawings

1. The drawings are objected to because:

Figure 1, element 100 should be labeled "Second Order Low Pass Filter" or "Second Order LPF".

Figures 2 and 6, elements 206 and the like element (No number in figure 6) should be removed? The requirement to remove elements, such as element 206 in figure 2, is because the outputs of element 204 are directly connected to the inputs of element 208. The presence of element 206 is redundant and confusing.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Objection

2. The disclosure is objected to because the configuration is confusing. As the examiner has mentioned in the objection to the drawing, element 206 in figure 2 (Similar element is in figure 6) becomes redundant since the direct connection (The lines across 206 from outputs of element 204 to inputs of element 208) would bypass element 206 (No current or signal would go into the element 206).

Appropriate correction and/or explanation is required.

For the purpose of examination, examine assumes that the lines bypassing element 206 are inadvertently presented (Examiner's assumption is based on the disclosure of page 4, lines 1-7).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1, 5, are rejected under 35 U.S.C. 102(e) as being anticipated by Hatcher et al. (US 2002/0160740A1).

Regarding claim 1, Hatcher et al. discloses a method comprising the steps of (figure 3) generating a test signal (C+, C-); and suppressing even-order harmonics due to transistor mismatches (Page 4, entire right columns; page 5, entire left column) within the plurality of transconductor cells (Q1-Q6).

Regarding claim 5, Hatcher et al. discloses the test signal comprises a sinusoidal signal (The RF signal is sinusoidal signal).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-4, 6-10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatcher et al. (US 2002/0160740A1).

Regarding claims 2, 3, 6, 7, Hatcher et al. discloses a system comprising (Figure 3) a plurality of transconductor cells (Q1-Q6); and a signal processor (210) for generating a test signal (328, 332) to the device (204) and for suppressing even order harmonics due to transistor mismatches within the plurality of transconductor cells (Page 4, entire right column; page 5, left column, lines 26-42).

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The only difference between Hatcher et al. and the invention claimed is that the claim recites a digital signal processor in place of processor (210).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a digital signal processor into the system of Hatcher et al. because the DC offset to suppress even order harmonic in the bipolar junction transistor (BJT or Analog) as taught by Hatcher et al. (Page 5, Entire left column) would have been obvious for the use of a digital to suppress the even order harmonic in the CMOS (Digital) since Hatcher et al. taught that DC offset compensator allows the DC offset associated with the even order non-linearity in each individual Gilbert cell to be compensated (Page 5, left column, lines 39-42).

Regarding claims 4, 8, 9, the only difference between Hatcher and the invention claim is that the claim recites a second order low pass filter in place of a mixer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the second order low pass filter into the system of Hatcher because adjusting the DC offset of the second order low pass filter or any electronic device including the mixer of Hatcher having second order harmonic due to transistors mismatch, the even order non-linearity would be compensated (Page 5, left column, lines 39-42).

Regarding claim 10, Hatcher et al. discloses the test signal comprises a sinusoidal signal (The RF signal is sinusoidal signal).

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No. 6,137,370 discloses a circuit configuration, which is less generative of harmonic noise by itself since the configuration is a fully differential type circuit, if outputted differentially, the even order harmonic noise can be suppressed, and jitter due to source noise can be further alleviated. Thus, high quality oscillation signals can be obtained (Column 10, lines 50-57).

US 2001/005151A1 discloses the method to suppress the even order harmonic by using current source connected to the emitter electrodes (Page 1, right column, fifth paragraph; page 2, left column, third paragraph).

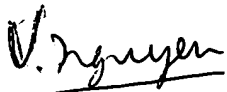
Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



August 23, 2004

Vincent Q Nguyen
Patent Examiner
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